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PROPOSAL FOR THE UTILIZATION OF OVERT SOVIET
SCIENTIFIC LITERATURE

by John Turkevich

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The purpose of this memorandum is to outline a program for the utilization of overt Soviet scientific literature in order to acquaint the scientists of this country with the work carried out behind the Iron Curtain. In this way our scientists will be helped in their own scientific work and also will be in a position to evaluate the Soviet effort for intelligence purposes.

There is no need to emphasize the role that science plays both in the peacetime national economy and in the development of military potential and striking power of a country. Recent atom blasts in the Soviet Union and the performance of the MIG in the Korean War theater underline the vital importance of scientific intelligence to our national security. These particular developments could be predicted on the basis of overt Soviet science information. It is therefore a part of effective intelligence effort to carry out a program designed to build up a background of information on Soviet Science in order to evaluate rapidly and effectively the current scientific work in that country.

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There is considerable scientific publishing in the Soviet Union as is attested by the fact that over five hundred scientific and technical periodicals appear in that country. Furthermore numerous important monographs and books are known to be published in the USSR. Many of these journals and some of the monographs are available in this country and in Europe on an overt basis. The Russian language barrier is very effective in keeping most of the information in these sources from American scientists. This makes very difficult the problem of evaluation and utilization of the data in them. It is quite possible that some of these sources will dry out due to Soviet Government truculence. This can be circumvented, in the author's opinion, by the development and utilization of overt European sources.

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The proposed program is for a thorough study of a selected group of the most important Soviet scientific journals. The evaluation effort is thereby not scattered and diffused by trying to cover all Russian periodicals. It involves the use of most scientists in this country on an overt basis without the latter realizing the fact that they are furnishing intelligence information to the Agency. The number of scientists used on a cleared basis and directly associated with the Agency is to be very small. An additional feature of this program is that it builds on existing facilities which can be contracted and expanded readily according to the needs of the Agency.

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The stages of the program are the following:

1. Publication of a monthly periodical listing of the titles of articles of about forty important Soviet scientific journals. The listing is to be made available to all American scientists, and scientific and industrial organizations.
2. Expansion of the existing unclassified pool of translations of overt Russian scientific articles by the inclusion into it of translations of overt articles now held by the Government and classified as "secret" because of the Government's interest in their contents.
3. Subdividing the important fields of Soviet science activity among appropriate Government agencies and making these agencies financially responsible for immediate and full translations of all articles in their field appearing in a select list of Russian journals.
4. Compilation of a dictionary of Russian scientific and technical terms to supplement the existing dictionaries.
5. Determination of overt European sources for this select group of Soviet periodicals as an insurance to this program in case the Soviet government restricts the importation of these journals to the United States.
6. Sponsorship of a book on Russian science.
7. Organization of seminars on topics of heightened Soviet scientific activity in universities where there is American competence. Through discussions at these seminars the Agency will be able to obtain an evaluation of the Soviet progress in this field.

The first step in the program is to make available to the American scientist the list of titles of scientific articles in a select group of important Russian periodicals. This list must be readily available to everyone of scientific competence. It must not be very long, otherwise people will not read it. Furthermore it must be well organized and indexed. The Brookhaven Guide to Russian Scientific Periodical Literature published at the Brookhaven National Laboratory under the auspices of the U. S. Atomic Energy Commission and directed by John and Ludmilla Turkevich of Princeton University has been serving this purpose since September 1947, when the Russian scientific journals discontinued the practice of translating the titles of the scientific articles into English, German or French. This publication has been coming out twelve times a year during the last four years and covers about twenty periodicals. A serious handicap suffered by the Brookhaven guide is that its circulation is limited to scientists associated with the activities of the U. S. Atomic Energy Commission. It can be obtained on an individual copy basis from the Office of Technical Services, Department of Commerce. Scientists in universities and

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industrial organizations, not associated with the national atomic energy program can not obtain it on a subscription basis and this deters many. It is therefore recommended that the Guide to Russian Periodical Scientific Periodical Literature published by the Brookhaven National Laboratory be used as a medium for acquainting the scientists of this country with the titles of the articles appearing in the most important Soviet scientific and technical periodicals. It is further recommended that the number of journals be extended to give better coverage in the fields of mathematics and medicine. It is further recommended that the Director of Central Intelligence *Certainly* Agency write a letter to the Director of the Bureau of the Budget *not - all* pointing out the importance of bringing to the attention of all *not the OCS* scientists of the country the work done in science in the Soviet *because the* Union and stating that it would be of service to the intelligence *make and* of this country if the Guide to Russian Scientific Periodical *profit for* Literature published by the Brookhaven National Laboratory be given *Mr. DeLoach* permission to come out as a monthly government publication available on a subscription basis. It is further recommended that the Library of the Brookhaven National Laboratory, the Library of Congress and possibly some other libraries carry a card index indicating where one can obtain on an overt basis the individual issues of these important thirty to forty Russian journals in the United States.

The second stage of the program consists in supplying the American scientists with translations of Russian scientific articles. It would be a tremendous enterprise to translate all the Russian scientific articles even in this select group of some forty journals. It would be foolish to publish all of these translations since they are of interest only to small but important groups of specialists. The simplest scheme is to collect in one or two places copies of translations already made and have them available to interested parties either through interlibrary loans or through photostats. Such a program was initiated several years ago at the Brookhaven National Laboratory by John Turkevich. Industrial research laboratories were asked to send copies of translations that they held to the Brookhaven Library. The identity of the industrial company or organization was withheld so as not to reveal the interest of the translator in the subject. Close to five hundred such translations are now being held by the Brookhaven Library furnishing a pool of translations of sufficient size to hide any additional translations. The listing of translations available from the pool is carried by the Brookhaven Guide to Russian Scientific Periodical Literature. At present there are about two requests per day for copies of translations from the Brookhaven pool of translations. It is recommended that this pool of translations be amplified by having the Agency and other government organizations send to the Brookhaven translation pool copies of translations of Russian scientific articles that are obtainable on an overt basis. The pool is sufficiently large so that the identity of the source would not be surmised from the appearance of the translation in the

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Brookhaven Russian translation pool listing. At the same time this procedure would solve the existing ridiculous situation wherein a Russian scientific article, obtained on an overt unclassified basis, becomes classified "secret" as soon as it appears in English because a government agency has had it translated.

This may be argued.

The third stage in the program is to insure a complete and rapid translation of all articles in a small number of fields of major activity in Soviet science. These fields are few in number, e.g. nuclear theory, nuclear experiments, cosmic rays, low temperature physics, solid state physics, spectroscopy, explosions, phosphorous chemistry, hydrocarbon chemistry, catalysis, theory of calculating machines, etc. This phase could be organized so that a given governmental organization would be responsible financially for a preassigned subject. Thus the U. S. Atomic Energy Commission would be responsible for the translation of all articles, available on an overt basis, on nuclear phenomenon and radioactivity, the U. S. Navy for low temperature physics and spectroscopy, the Air Force for explosions and aerodynamics, the Signal Corps for solid state physics, etc. This is a provisional assignment and would have to be worked out with the various services and governmental organizations. The coordinating agency might be the National Science Foundation through one of its contractors. (It must be pointed out that the number of articles in a given field is not very large. For example in nuclear science it would involve at most fifty articles, many not greater in length than four pages. These translations would be distributed among a small select group of scientists working in a particular field and copies would be deposited in such translation pools as that of the Brookhaven Library and others, set up in certain locations. In this way the translation pools would be complete in certain specialized and significant areas of Soviet science.

Concur, as it would relieve 75% of a lot of mostly long translation requests.

The fourth phase of the program is the compilation of supplements to the existing Russian scientific and technical dictionaries. At present there are two dictionaries available: L. I. Callahan's "Russian English Technical and Chemical Dictionary," published by John Wiley and Sons in New York in 1947, containing about 80,000 words and A. Bray's "Russian English Scientific Technical Dictionary," published by the International University Press in 1945 and containing 30,000 words. Both of these dictionaries have very definite blind spots and are gradually getting out of date. It would be definitely in order to start a project to amplify the existing dictionary facilities. This aspect of the general utilization problem is the subject of a separate report to be submitted by the author of this report.

Concur, and a new one would be useful to 75%. We could help on the project.

A fifth aspect of the general utilization of the overt Soviet literature is to make a survey of the availability of these overt Russian journals in Western Europe. The Russians may cut out the exchange of their scientific periodicals with the United States. I doubt if they will cut out scientific exchange with all the Western

If lost to the West, the journals would probably be lost to Western Europe.

countries. A survey should be made immediately of sources in the Western European universities and arrangements made to have copies of the Russian journals reproduced as soon as these European sources receive them.

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(or for 7-2-1)*

The sixth phase in the development of a program of utilization of overt Soviet literature for intelligence purposes is to have a book written on Russian science. This book would be available on an unclassified basis and furnish information obtained from overt Russian sources on

- (a) history of science in Russia
- (b) organizational structure of Soviet science
- (c) personalities - listed by OSF with 7-2-1 & B. F. keep.
- (d) Marxist philosophy and science
- (e) fields of current activity in Soviet science.

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The author of this report has collected a large amount of material on each of these subjects and has lectured a number of times before various groups on different aspects of Russian science. Given financial support for a junior research associate for a year, it is his feeling that a manuscript can be obtained within that period on Russian Science.

The final stage of the program and a crucial one from the intelligence point of view is a periodic evaluation of important fields of Soviet scientific activity by a group of experts. An American scientist is selected and furnished with translations and material on the Soviet activity in a desired field. He prepares a report that is given in form of a seminar before a group of American scientists who are experts in this field. A discussion is held after the talk on the significance and value of the Russian contribution to this field. Such seminars can be held in various universities and research centers. It is the author's belief that they would throw considerable light on the techniques used by the Russians and the motivation behind their research in certain fields. In addition it would make our scientists more cognizant of the detailed Russian accomplishments. In periods intervening between such discussions, our scientists might report to the man giving the seminar, significant material that they might have obtained from reading the Russian scientific literature. The latter would be furnished to them by the first three phases of the program. The author of this report has attempted this technique by working up the subject of Soviet Cosmic Ray research and has presented a talk on this Soviet activity before the Journal Club of the Princeton University Physics Department. He found this experiment worth continuing. He had an audience of sixty physicists. The discussion was particularly enlightening on the comparison of Soviet experimentation with that of the Western scientists. He is planning to give this talk at the

*Editorial
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Final idea,
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